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Addressing the Unmet Medical and Social Needs of Complex Patients

As providers, policymakers and advocates navigate myriad approaches to addressing high healthcare costs and uneven quality in America, special attention to meeting the needs of complex patients is warranted. The care these patients receive is often fragmented and not tailored to address their unique social and medical needs.

Innovative models have been adopted around the country that employ new care approaches to address unmet social and medical needs. These approaches can result in lower healthcare costs, improved quality and may reduce disparities. Realizing these benefits can be

challenging—program directors must surmount financing silos, adopt new data systems and tailor the right model to the right population. Nonetheless, these models deserve a careful look.

Who are Complex Patients?

Complex patients account for a large portion of healthcare spending in the U.S. The costliest one percent of patients account for 20 percent of healthcare spending and the costliest five percent account for 50 percent.¹

Excellent work by the Commonwealth Fund² and others reveals that complex patients are a very diverse group, including:

- people who have major complex chronic conditions;
- the nonelderly disabled;
- frail seniors; and
- children who have complex special healthcare needs.

This patient group lacks a precise taxonomy. Complex patients are also referred to as super utilizers and high-cost, high-need patients.

The Agency for Healthcare Research and Quality defines complexity as the “magnitude of mismatch between a patient’s needs and the services available to him/her in the healthcare system and community.”³ The Centers for Medicare & Medicaid Services defines these patients as those with “complex, unaddressed health issues and a history of frequent encounters with healthcare providers.”⁴ Research done by The Commonwealth Fund defines complex patients as those with three or more chronic conditions *and* a functional limitation.⁵

What’s critically important for realizing the gains from the social-medical care models described below is to understand the diversity within these patients and to tailor the model to meet their needs. For example:

SUMMARY

Complex patients have multiple chronic conditions and often struggle to manage them. They may have functional limitations, or a combination of vulnerabilities including social disadvantages such as homelessness, low income, behavioral health issues, or being a racial and ethnic minority.

Because this is a very high-cost population that often experiences unmet social needs and care coordination failures, there is tremendous opportunity to improve the lives of these patients and possibly reduce net social and health spending. Models of care that are data driven, tailored to patient needs and integrate care from healthcare and social service providers are extremely promising and deserve the sustained attention of policymakers and advocates. Implementing the models of care described in this paper could mean great progress in lowering cost, improving quality of care and reducing disparities.

It is a core responsibility of advocates and policymakers to look past current financing and practice silos to comprehensively address the needs of these patients across programs and across time.

- **With a few exceptions, complex patients are typically also high-cost patients.** 94 percent of people whose annual total healthcare expenditures were in the top 10 percent of spending for all adults had three or more chronic conditions.⁶
- **Most complex patients have an unmet medical need.** One in five high-need adults report having an unmet medical need, compared to 8 percent of total adults.⁷ Another Commonwealth Fund study⁸ identified the top concerns facing complex patients:
 - *Affordability:* Compared to others, complex patients spend more than double, on average, on out-of-pocket costs.
 - *Difficulty accessing appropriate care and getting timely appointments.*
 - *Having a good relationship with their providers:* Only 40 percent report having “good” patient-provider communication. Good provider communication and regular appointments with their care coordinator are key to the overall management of patient care and patient adherence to their care plan.
- **Many complex patients have an unmet social need.** It’s clear that unmet social needs are more prevalent among the complex patient population, but we still lack standard tools for measuring these needs. A variety of studies find:
 - A Kaiser Permanente initiative contacts patients identified as being at the highest risk of becoming super-utilizers (i.e., in the top 1% of predicted utilization according to their illness burden). They found that 78 percent of screened members had at least one unmet social need, such as affording food or housing or lack of transportation to medical appointments.⁹
 - A Commonwealth Survey found among high-need adults (those with two or more major chronic conditions), 62 percent had a material hardship (difficulty paying for housing, utilities or food) compared to 32 percent of non-high-need adults.¹⁰
 - A study that screened a general patient population found 46 percent of patients had at least one unmet social need and 63 percent of those had multiple unmet needs.¹¹
 - A study of more than 3,000 patients seen during a seven-month study period found that 416 (about 15%) indicated one or more unmet social needs.¹²
- **Are vulnerable populations over represented?** Good data on this is sparse, but it seems likely. On the one hand, whites are disproportionately represented among complex patients and most have insurance (typically public coverage).¹³ On the other hand, these patients exhibit characteristics of vulnerable populations: economically disadvantaged, the elderly, the homeless, those with human immunodeficiency virus (HIV), and those with other chronic health conditions, including severe mental illness.¹⁴
- **Not all complex patients are “super-utilizers.”** About two-thirds of complex patients had no emergency department (ED) visits in a year, while about 3 percent visited the ED four or more times. Similarly, a high share (68%) had no hospital discharges in a year, but 5 percent were hospitalized at least three times in a year.¹⁵
- **High needs may not persist into the next year.** A study by Denver Health found that the general belief of “once a super-utilizer, always a super-utilizer” isn’t 100 percent accurate—many patients who are high need this year will not be high-need next year.¹⁶ While high-need patients are more likely to be high cost compared to the general population, about 30 percent will not be in the top 10 percent of health spenders the following year.¹⁷ Many patients who use healthcare services intensely do so for a relatively brief period of time.

- **Not all are at the end of life.** One common misconception is that complex patients are at end of life, but this is not true. Complex patients may have chronic conditions that can be treated successfully for years.
- **Not all are dual eligibles.** Many complex patients are “dually eligible,” meaning they are eligible for both Medicaid and Medicare benefits.¹⁸ Dual eligibles often have a significant comorbidity status influenced both by age and disability status. But many dual-eligibles are not among the highest-cost patients. Nearly 40 percent of dual eligibles had lower average per capita spending than non-dual-eligible Medicare beneficiaries.¹⁹

Meeting the Needs of Complex Patients

Fortunately new models of care are showing success for these costly, yet under-served patients. Clear evidence is emerging that the integration of clinical care and behavioral healthcare and the services of community-based organizations can consistently improve the quality of care and deliver better health outcomes for our most complex patients. As described above, complex patients have a diversity of needs. Successful care models identify complex patients and address their specific needs.

Addressing Unmet Medical Needs

There are various reasons for why complex patients suffer from poor outcomes, but research points predominantly to poor care coordination. While patients self-report comparatively low rates of unmet medical needs, researchers generally believe this a much more prevalent issue.²⁰

Many patients with complex medical needs also have behavioral health and substance abuse needs. Like other complex patients, this subpopulation sees multiple providers and communication difficulties can lead to poor coordination of care. An estimated 70 percent of adults with a mental health issue also have a physical condition that needs to be treated by a physician.²¹ Patients are often referred by their primary care physician to another doctor or practice to meet the needs of their behavioral health condition. This creates a

Examples of Complex Patients with Unmet Needs

A 58-year-old Maryland woman breaks her ankle, develops a blood clot and, unable to find a doctor to monitor her blood-thinning drug, winds up in an emergency room 30 times in six months.

A 55-year-old Mississippi man with severe hypertension and kidney disease is repeatedly hospitalized for worsening heart and kidney failure. Doctors don't know that his utilities have been disconnected, leaving him without air conditioning or a refrigerator in the sweltering summer heat.

A 42-year-old morbidly obese woman with severe cardiovascular problems and bipolar disorder spends more than 300 days in a Michigan hospital and nursing home because she can't afford a special bed or to arrange services that would enable her to live at home.

Source: <http://khn.org/news/one-percent-of-costliest-patients/>

chasm in the continuum of care if there is a coordination breakdown between providers.

Patients with mental health diagnoses use more medical resources and are admitted to the hospital more frequently than patients from the general population. A study conducted by The Commonwealth Fund found that complex patients with behavioral health conditions have a greater likelihood of remaining high spenders over two years than those without such conditions.²²

Improved care coordination will reflect:

- A shift away from the disease-specific medical model, in which each clinician operates in his or her own specialty, to one that is more integrative and accepts multimorbidity and multidisciplinary care as the norm.
- In most health systems, care coordination occurs sequentially, and this may be adequate for uncomplicated cases. However, complex cases require seamless concurrent coordination with the spectrum of providers, patient and caregivers.²³

- The ability to manage patients in multiple settings because patients are at high risk of moving from primary care to hospital to post-acute care site or nursing home.

Addressing Unmet Social Needs

Compelling research finds that social determinants of health have a greater influence on outcomes than medical factors.²⁴ Unfortunately, as a nation, we spend far less on social services than other countries. Generally, unmet social needs are associated with higher rates of emergency department use, hospital admissions and readmissions.²⁵ A key feature of tailoring better models of care for complex patients must address their unmet social needs:

- Poor health is closely tied to inadequate housing. For example, asthma is can be linked to living conditions. Many patients have a lack of a consistent housing and use the ED as an opportunity to get warm, fed and a good night's sleep.
- Poor health is closely tied to food insecurity. For example, diabetes-related hospital admissions have been shown to increase when SNAP (food stamp) benefits run out.
- Poor health is closely tied to unemployment or underemployment.²⁶

When these patients have significant social needs, partnering at the community level is of critical importance to improve their health outcomes. Successful interventions often feature social service investments and partnerships between healthcare and social services, for example, housing supports, nutrition assistance, case management and community outreach.²⁷

Meeting social needs is often hard to do. Data is often missing to identify those needs, providers may not have avenues for addressing social needs, community needs may be lacking and financing structures oftentimes do not reimburse for needs assessment or social services.²⁸

Nonetheless, myriad models around the country have found ways to create successful medical-social partnerships. Common attributes of successful models include:²⁹

- closely targeting patients who are most likely to benefit from the intervention;
- comprehensive assessment of patients' risks and needs;
- specially trained care managers who facilitate coordination and communication between patient and the clinical and social care team; and
- effective interdisciplinary teamwork.³⁰

Using Data to Target At-Risk Populations – Hot Spotting

It is critically important to identify patterns that exist in the population and target these care models correctly. Through “hotspotting,” claims data and a variety of other data sources, we can begin to strategically implement targeted interventions to address a community's problems. The Camden Coalition is an example of a successful model that works to gather real-time data through a multi-hospital collaborative. The data collected is used to identify “super utilizers” and then work across a spectrum of care providers, including those outside of traditional medical treatments, such as food access or housing, to provide care.

Case Study Examples

Community Health Workers

There is strong evidence that community health workers (CHW) within can help reduce disparities, improve quality of care and reduce costs. Community health workers are already embedded within communities and have a deep understanding of the population they serve. CHWs can leverage this information to effectively bridge the divide between the healthcare provider and the day-to-day life of a patient outside the hospital walls. The responsibilities of a CHW may vary, but compared to physicians or other healthcare workers, they are well situated to help complex patients navigate the

health system and access the community's non-medical resources. Use of CHWs is growing. According to a recent estimate, there were 48,000 working in the U.S in 2015, an increase of 27 percent from three years earlier.³¹ Evidence shows that the use of CHWs can help effectively manage chronic care conditions that result in higher usage of the emergency department.³²

Community Care of North Carolina

Community Care of North Carolina is a partnership between the state and 14 nonprofit community care networks located in different areas across the state.³³ The network has local providers that deliver components of a patient-centered medical home for low-income adults on Medicaid and children on the State Children's Health Insurance Plan. CCNC is funded both publicly and privately through the North Carolina Department of Health and Human Services and the North Carolina Division of Medical Assistance. The program has delivered very high cost saving results resulting from decreased readmission and ED utilization. Since the program has 14 networks located across the state, it allows the program to assess its own needs at a local level allowing them to continually reevaluate the needs of their population and each network has its own separate composition. The program has delivered very promising results for patients with chronic conditions. The program has also paired up with The Commonwealth Fund to create a toolkit that other states use to better address low-income patients in their states.

ECHO Care Complex Care Program

Project ECHO began with a grant from the Center for Medicare and Medicaid Innovation to target complex patients in New Mexico, mainly a population that has a combination of behavioral health conditions, poverty or homelessness.³⁴ The program relies on telemedicine sessions and community health workers to allow clinicians to reach patients that live in rural areas. Results have been promising - hospitalizations fell by 27 percent and emergency department visits have decreased by 32 percent.³⁵

GRACE—Geriatric Resources for Assessment and Care of Elders

The GRACE model is an integrated care model featuring an interdisciplinary geriatrics team. Nurse practitioners and social workers assess patients in their home and develop care management plans based on their findings. Plans are presented to the full care-management team, whose members prioritize interventions and generate patient reports. The GRACE model targets low-income seniors, many of whom are dually eligible with multiple chronic conditions. In a two-year randomized controlled trial, GRACE was cost neutral during the first year, due to program costs. But in the second year, there was a clear net savings of \$1,500 per patient due to reduced hospitalizations.³⁶

Hennepin Health Model

The Hennepin Health Model is a collaboration between Hennepin County and the Minnesota Department of Human Services. The partnering agencies work together to address the social determinants of health for defined populations. They coordinate efforts to address members' medical, behavioral, and social problems through a network of providers and partnering social service agencies. Hennepin Health's approach is to focus first on stabilizing members' lives, then encourage them to take medications, to try counseling and addiction treatments, and to seek care for their neglected medical problems. During the first year the program resulted in a 9 percent drop in emergency department visits and a 3.2 percent reduction in inpatient hospital admissions.³⁷

Next Steps for Advocates and Policymakers

Implementing these models of care broadly, yet still tailored to the needs of the patient, will prove challenging. Yet, it is a core responsibility of advocates and policymakers to look past current financing and practice silos to comprehensively address the needs of these patients across programs and across time.

To that end, we recommend:

- At the national level, more research to better classify subgroups of patients, to inform a common

taxonomy and to improve our ability to target the best interventions to each group.³⁸ This research should build upon the disparate screening tools now in use around the country and incorporate socio-economic and demographic data that will help us learn if we are reducing disparities.³⁹

- Build upon the taxonomy to develop a shared evaluation framework or common set of outcome measures (in both the private and public sectors) to accelerate development of a robust evidence base.⁴⁰
- Continue to promote best practices such as multidisciplinary teams that are able to address medical, social and behavioral problems and build platforms for sharing patient information across the team.
- Break down financing silos and ensure that incentives are aligned across the types of care delivered, care coordination is rewarded (including with community partners), and the longer-term benefits to the community are recognized.

Conclusion

Complex patients have multiple chronic conditions and often struggle to manage them. They may have functional limitations, or a combination of vulnerabilities including social disadvantages such as homelessness, low income, behavioral health issues, which are likely to have a disparate impact on racial and ethnic minorities.

Because this is a very high-cost population that often experiences unmet social needs and care coordination failures, there is tremendous opportunity to improve the lives of these patients and likely reduce net social and health spending. Models of care that are data driven, tailored to the patient population and integrate healthcare and social service providers are extremely promising and deserve the sustained attention of policymakers and advocates. Implementing new models of care could lead to great progress in achieving our triple goal of reducing cost, improving quality of care, and reducing disparities.

Models of care that are data driven, tailored to the patient population and integrate healthcare and social service providers are extremely promising and deserve the sustained attention of policymakers and advocates.

Notes

1. Cohen, Steven, and Namarata Uberoi, *Differentials in the Concentration in the Level of Health Expenditures across Population Subgroups in the U.S., 2010*, Statistical Brief No. 421, Agency for Healthcare Research and Quality, Rockville, M.D. (August 2013).
2. Hayes, Susan L., et al., *High-Need, High-Cost Patients: Who Are They and How Do They Use Health Care?* The Commonwealth Fund (Nov. 18, 2016).
3. The AHRQ Multiple Chronic Conditions Research Network, Agency for Healthcare Research and Quality. <http://www.ahrq.gov/professionals/systems/long-term-care/resources/multichronic/index.html>
4. *Targeting Medicaid Super Utilizers to Decrease Costs and Improve Quality*, Centers for Medicare & Medicaid Services, CMS Informational Bulletin (July 24, 2013).
5. Hayes (Nov. 18, 2016).
6. Hayes (Nov. 18, 2016).
7. Abrams, Melinda, et al., *Health System Performance for the High-need Patient: A Look at Access to Care and Patient Care Experiences*, The Commonwealth Fund, Washington, D.C. (August 2016).
8. Hayes (Nov. 18, 2016).
9. Kanter, MS., et al., "Healthcare That Targets Unmet Social Needs," *NEJM* (April 13, 2016).
10. Abrams, Melinda, et al., *How High-Need Patients Experience Healthcare in the United States*, The Commonwealth Fund, Washington D.C. (December 2016).

11. Page-Reeves, Janet, et al., “Addressing Social Determinants of Health in a Clinical Setting: The WelRx Pilot in Albuquerque, New Mexico,” *Journal of the American Board of Family Medicine* (May-June 2016).
12. Massachusetts General Hospital, News Release <http://www.massgeneral.org/News/pressrelease.aspx?id=1874> (Accessed Feb. 7, 2017).
13. Hayes (Nov. 18, 2016).
14. “Vulnerable Populations: Who are They?” *The American Journal of Managed Care* (November 2006).
15. Hayes (Nov. 18, 2016).
16. This study examined the characteristics and costs of 4,774 publicly insured or uninsured patients who were hospitalized more than three times during a 12-month period. They found 3 percent of adult patients consistently met super-utilizer criteria and accounted for 30 percent of healthcare costs. However, fewer than half of the super-utilizers were in the category seven months later, and only 28 percent were in the category at the end of a year. And at the end of two years, only 14% were in the category. See: Johnson, et al., “For Many Patients Who Use Large Amounts of Health Care Services, The Need is Intense Yet Temporary,” *Health Affairs*, Vol. 34, No. 8 (August 2015).
17. Ibid.
18. There are nearly nine million Americans who are dually eligible, 61 percent of whom are seniors who qualify for Medicare on the basis of age and the remaining 39 percent receive benefits based on the qualifications for disability insurance. See: *Improving Healthcare for High-Need Patients*, Peterson Center on Healthcare (2016).
19. Coughlin, Teresa A., Timothy A. Waidmann and Lokendra Phadera, “Among Dual Eligibles, Identifying the Highest-Cost Individuals Could Help in Crafting More Targeted and Effective Responses,” *Health Affairs* (May 2012).
20. *The Healthcare Imperative: Lowering Costs and Improving Outcomes: Workshop Series Summary*, Institute of Medicine Roundtable on Evidence-Based Medicine, National Academies Press (2010).
21. *Enhancing Patient Outcomes and Health System Value Through Integration of Behavioral Health into Primary Care*, Institute for Clinical and Economic Review (June 2015).
22. Kathol, Roger, et al., “The Role of Behavioral Health Services in Accountable Care Organizations,” *American Journal of Managed Care* (March 23, 2015).
23. Anderson, et al., *Tailoring Complex-Care Management, Coordination, and Integration for High-Need, High-Cost Patients A Vital Direction for Health and Health Care*, National Academy of Medicine (Sept. 19, 2016).
24. Office of Disease Prevention and Health Promotion, Social Determinants of Health, <https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health> (accessed Feb. 21, 2017).
25. Ibid.
26. Bachrach, Deborah, et al., *Addressing Patients’ Social Needs An Emerging Business Case for Provider Investment*, Mannat Health Solutions (May 2014).
27. Bradley, Elizabeth, et al., *Leveraging The Social Determinants of Health: What Works?*, Blue Cross Blue Shield of Massachusetts Foundation (June 2015).
28. Henkel, Anna, and Nate McCarthy, *Rethinking Care for Emergency Department Super Utilizers in a Value-Based World*, ECG Management Consultants, (Jan. 4, 2016).
29. Ibid.
30. McCarthy, et. al. (2015); Anderson, et. al., (2015).
31. Ollove, Michael, *Under Affordable Care Act, Growing Use of ‘Community Health Workers,’* Pew Trusts (July 8, 2016).
32. CDC, *Addressing Chronic Disease through Community Health Workers* (2015). https://www.cdc.gov/dhdsp/docs/chw_brief.pdf
33. McCarthy, Douglas, and Mueller, Kimberly, *Community Care of North Carolina Building*

Community Systems of Care Through State and Local Partnerships, The Commonwealth Fund (June 2009).

34. Hostetter, Martha, Sara Klein and Douglas McCarthy, *Project ECHO's Complex Care Initiative: Building Capacity to Help "Super Utilizers" in Underserved Communities*, The Commonwealth Fund (August 2016).
35. Klein, Sarah, and Martha Hostetter, "ECHO Effect Spreads to Address Superutilizer Patients," *New England Journal of Medicine* (Feb. 17, 2016).
36. Bielaszka-DuVernay, Christina, "The 'GRACE' Model: In-Home Assessments Lead to Better Care for Dual Eligibles," *Health Affairs*, Vol. 36, No. 2 (March 2011).
37. Evans, Melanie, "Hennepin Health Saves Money by Housing, Employing Patients," *Modern Healthcare* (Nov. 3, 2014) and Hostetter, Martha, Sara Klein and Douglas McCarthy, *Hennepin Health: A Care Delivery Paradigm for New Medicaid Beneficiaries*, The Commonwealth Fund (October 2016).
38. A great start on this objective is: The Playbook, *Better Care for People with Complex Needs*, <http://www.bettercareplaybook.org/> (accessed on Feb. 21, 2017).
39. While conducting our review of the evidence, we found that metrics that would allow us to assess the impact on health disparities were not often collected, therefore making it difficult to conclude that a reduction of disparities actually occurred.
40. Hayes (Nov. 18, 2016).

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ABOUT THIS SERIES

The Healthcare Value Hub takes a careful look at the evidence and consults with experts in order to clarify for advocates, media and policymakers the important cost drivers and the promising policy solutions. Hub Research Briefs, Easy Explainers, infographics and other products are available at our website. Note: This publication was produced when the Healthcare Value Hub was affiliated with Consumer Reports. As of July 1, 2017, the Hub is part of Altarum Institute.

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